

88

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/501,275	MORELLO, GINO F.	
	Examiner	Art Unit	
	Natasha N. Patel	3766	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 18 September 2006.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)            | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

1. The amendment filed on 18 September 2006 has been received and considered. By this amendment, Claims 1, 9, 11, 13, 15, 16, 18, 20, 31, and 34 have been amended. Claims 1-34 are now pending in the application.

### ***Claim Objections***

2. In view of the Applicant's amendment to Claims 1, 9, 11, 13, 15, 16, 18, 20, 31, and 34, the Examiner is withdrawing the objection, which was made against Claims 1, 9, 11, 13, 15, 16, 18, 20, 31, and 34 in the previous Office Action.

### ***Response to Arguments***

3. Applicant's arguments, see pages 10-13, filed 18 September 2006, with respect to the definition of a probability index have been fully considered and are persuasive. The rejection of Claims 1-34 has been withdrawn.

### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

5. Authorization for this examiner's amendment was given in a telephone interview with Mr. Mark L. Gleason on October 13, 2006.

6. This application has been amended as follows:

Art Unit: 3766

7. In Claim 31, line 7, immediately after “analyze the time-based system parameter”, -- in response to the analysis of the time-based system parameter-- was inserted.

8. In Claim 34, line 5, immediately after “analyzing a time-based parameter of the pump”, -- in response to the analysis of the time-based system parameter -- was inserted.

### **REASONS FOR ALLOWANCE**

9. The following is an examiner’s statement of reasons for allowance:

10. The Applicant discloses a method and system of detecting ventricular collapse by calculating a suction probability index in response to the analysis of a time-based parameter of the blood pump.

11. The prior art of record (Antaki et al.; US Patent 5,888,242) teaches the sampling and analysis of a time-based parameter of the blood pump system, but fails to teach the calculation of a suction probability index. The blood flow rate calculated in Antaki’s invention indicates ventricular collapse, but gives no insight into how probable or likely the occurrence of the ventricular collapse actually is.

12. Furthermore, the prior art of record (Burke et al.; US Patent 6,991,595) discloses the calculation of a pulsatility index to determine the imminence of a suction event. Burke also discloses the index as a percentage (see col. 2, lines 61-67). However, the index, once again, does not indicate probability, but rather, the level of assistance that

Art Unit: 3766

the pump is providing to the heart. For these reasons, the Examiner finds Claims 1-34 allowable.

13. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Allowable Subject Matter***

14. Claims 1-34 are allowed.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natasha N. Patel whose telephone number is 571-272-5818. The examiner can normally be reached on M-F 8:30-5:00.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on 571-272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3766

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NNP  
10/12/06

  
Robert E. Pozzuto  
Supervisory Patent Examiner  
Art Unit 3766